COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
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Molly Joseph Ward
Secretary of Natural Resources

David K. Paylor
Director

Michael P. Murphy
Regional Director

Federal Operating Permit
Article 3

This permit is based upon Federal Clean Air Act acid rain permitting requirements of Title IV, federal operating permit requirements of Title V; and Chapter 80, Article 3, and Chapter 140 of the Commonwealth of Virginia Regulations for the Control and Abatement of Air Pollution. Until such time as this permit is reopened and revised, modified, revoked, terminated or expires, the permittee is authorized to operate in accordance with the terms and conditions contained herein. This permit is issued under the authority of Title 10.1, Chapter 13, §10.1-1322 of the Air Pollution Control Law of Virginia. This permit is issued consistent with the Administrative Process Act, and 9 VAC 5-80-50 through 9 VAC 5-80-300, and 9 VAC 5-140-10 through 9 VAC 5-140-900 of the State Air Pollution Control Board Regulations for the Control and Abatement of Air Pollution of the Commonwealth of Virginia.

Authorization to operate a Stationary Source of Air Pollution as described in this permit is hereby granted to:

Permittee Name:	Doswell Limited Partnership
Facility Name:	Doswell Energy Center
Facility Location:	10098 Old Ridge Road Ashland, Virginia
Registration Number:	51018
Permit Number:	PRO51018

This permit includes the following programs:
Federally Enforceable Requirements - Clean Air Act (Pages 8 through 37)
Federally Enforceable Requirements - Title IV Acid Rain (Pages 38 through 39)
Federally Enforceable Requirements - Clean Air Interstate Rule (CAIR) (Page 39)
State Only Enforceable Requirements - (Page 40)

September 17, 2014
Effective Date

September 16, 2019
Expiration Date

_____
Deputy Regional Director

_____
Signature Date

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Permit Conditions, 33 pages
Attachment A: Clean Air Interstate Rule (CAIR) permit application (4 pages)

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Facility Information

Permittee
Doswell Limited Partnership
10098 Old Ridge Road
Ashland, VA 23005

Responsible Official
Anthony Hammond
Asset Manager

Acid Rain Designated Representative and CAIR/NOx Budget Trading Authorized Account Representative
Anthony Hammond
Asset Manager
USEPA ATS-AAR ID number 607206

Facility
Doswell Energy Center
10098 Old Ridge Road
Ashland, VA 23005

Contact Person
Anita Seigworth
Senior Environmental Specialist
(804) 227-2077

County-Plant Identification Number: 51-085-0061
ORIS Code and/or EIA Facility ID: 52019
NATS Facility Identification Number: 052019

Facility Description: NAICS 221112 – The facility is an independent power production facility. Natural gas is received via gas pipelines and backup No. 2 Fuel Oil is available to fire up four Kraftwerk Union V84.2 (120MW) – combined cycle combustion turbines and associated John Zinc duct burners and one GE 7FA simple cycle combustion turbine. Other auxiliary equipment includes a natural gas-fired (No. 2 Fuel Oil backup) Zurn boiler rated at 40.0 mmBTU/hr, one Cummins-West emergency generator fueled by No. 2 Fuel Oil, One Caterpillar 3208 DITA Fire Pump fueled by No. 2 Fuel Oil and two (2) 7.6 million gallon fuel oil storage tanks. Fugitive VOC emissions due to fuel storage and handling are estimated to be less than 0.5 tons/yr.

Emission Units

Equipment to be operated consists of:

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity**	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
Equipment							
11	1	ID No. 501, Kraftwerk Union Combined Cycle Combustion Turbine (Model: V84.2) (Constructed: 5-1995) Firing no. 2 fuel oil with a maximum sulfur content of 0.05% - backup	1,237.2 mmBTU/hr. – input (*) 122 MW – output	Kraftwerk Union (steam injection) and Mitsubishi (SCR) 64% efficiency	501-11	NOx	8/3/05
12		Firing natural gas – primary	1,261.2 mmBTU/hr. – input (*) 122 MW – output	Kraftwerk Union (burner design) and Mitsubishi (SCR) 54% efficiency	501-12	NOx	8/3/05
13		ID No.501, Nooter-Erickson Heat Recovery Steam Generator (HRSG) with a John Zinc duct burner (Constructed: 6-1990) Firing no. 2 fuel oil with a maximum sulfur content of 0.05% - backup	266 mmBTU/hr. – input (*) $500x10^3$ Lb/hr. steam output	Mitsubishi (SCR) 64% efficiency Note: the duct burners are before the SCR. The SCR controls NOx for both the CT and DB.	501-13	NO_x	8/3/05

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity**	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
14	1	Firing natural gas -primary	241 mmBTU/hr.-input (*) 455 x 10^3 Lb/hr. steam output	Mitsubishi (SCR) 54% efficiency	501-14	NO_x	8/3/05
21	2	ID No. 502, Kraftwerk Union Combined Cycle Combustion Turbine (Model: V84.2) (Constructed: 6-1990) Firing no. 2 fuel oil with a maximum sulfur content of 0.05% - backup	1,237.2 mmBTU/hr. input (*) 122 MW – output	Kraftwerk Union (steam injection) and Mitsubishi (SCR) 64% efficiency	502-21	NOx	8/3/05
22		Firing natural gas – primary	1,261.2 mmBTU/hr. – input (*) 122 MW – output	Kraftwerk Union (burner design) and Mitsubishi (SCR) 54% efficiency	502-22	NO_x	8/3/05
23		ID. No. 502, Nooter-Erickson Heat Recovery Steam Generator (HRSG) with a John Zinc duct burner (Constructed: 6-1990) Firing no. 2 fuel oil with a maximum sulfur content of 0.05%-standby	266 mmBTU/hr – input (*) 500x10^3 Lb/hr. steam output	Mitsubishi (SCR) 64% efficiency	502-23	NO_x	8/3/05

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity**	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
24	2	Firing natural gas – primary	241 mmBTU/hr – input (*) 455x10^3 Lb/hr. steam output	Mitsubishi (SCR) 54% efficiency	502-24	NO_x	8/3/05
31	3	ID, No. 601, Kraftwerk Union Combined Cycle Combustion Turbine (Model: V84.2) (Constructed: 6-1990) Firing no. 2 fuel oil with a maximum sulfur content of 0.05%-standby	1,237.2 mmBTU/hr. – input (*) 122 MW-output	SCR, steam injection and burner design Kraftwerk Union (steam injection and burner design) Mitsubishi (SCR) 64% efficiency	601-31	NO_x	8/3/05
32		Firing natural gas-primary	1,261.2 mmBTU/hr – input (*) 122 MW – output	SCR, steam injection or burner design Kraftwerk Union (steam injection and burner design) Mitsubishi (SCR) 54% efficiency	601-32	NO_x	8/3/05
33		ID. No. 601, Nooter-Erickson Heat Recovery Steam Generator (HRSG) with a John Zinc duct burner, (Constructed: 6-1990) Firing no. 2 fuel oil with a maximum sulfur content of 0.05% - standby	266 mmBTU/hr. – input (*) 500x10^3 Lb/hr. steam output	Mitsubishi (SCR) 64% efficiency	601-33	NO_x	8/3/05

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity**	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
34	3	Firing natural gas – primary	241 mmBTU/hr input (*) $455x10^3$ Lb/hr. steam output	Mitsubishi (SCR) 54% efficiency	601-34	NO_x	8/3/05
41	4	ID. No. 602, Kraftwerk Union Combined Cycle Combustion Turbine (Model: V84.2) (Constructed: 6-1990) Firing no. 2 fuel oil with a maximum sulfur content of 0.05% - standby	1,237.2 mmBTU/hr (*) 122 MW – output	SCR, steam injection and burner design Kraftwerk Union (steam injection and burner design) Mitsubishi (SCR) 64% efficiency	602-41	NO_x	8/3/05
42		Firing natural gas – primary	1,261.2 mmBTU/hr. – input (*) 122 MW – output	SCR, steam injection or burner design Kraftwerk Union (steam injection and burner design) Mitsibishi (SCR) 54% efficiency	602-42	NO_x	8/3/05
43		ID. No. 602, Nooter-Erickson Heat Recovery Steam Generator (HRSG) with a John Zinc duct burner (Constructed: 6-1990) Firing no. 2 fuel with a maximum sulfur content of 0.05% - standby	266 mmBTU/hr – input (*) $500x10^3$ Lb/hr. steam output	Mitsubishi (SCR) 64% efficiency	602-43	NO_x	8/3/05

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity**	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
44	4	Firing natural gas – primary	241 mmBTU/hr. – input (*) 455x10^3 Lb/hr. steam output	Mitsubishi (SCR) 54% efficiency	602-44	NO_x	8/3/05
51	5	Zurn Auxiliary boiler (Constructed: 6-1990) Firing no. 2 fuel oil with a maximum sulfur content of 0.05% - standby	40 mmBTU/hr. – input (^{o}) 34,000 Lb/hr. steam output	-	-	-	8/3/05
52		Firing natural gas – primary	40 mmBTU/hr – input (^{o}) 31,000 Lb/hr. steam output				
61	6	Caterpillar Fire Pump (Model: 3208 DITA) (Constructed: 6-1990) Firing no. 2 fuel oil with a maximum sulfur content of 0.05%	1.44 mmBTU/hr. input (^{o}) 145 BHP – output	-	-	-	8/3/05
71	7	Cummins-West Emergency Generator (Model: KTTA-19-G2) (Constructed: 6-1990) Firing no. 2 fuel oil with a maximum sulfur content of 0.05%	4.26 mmBTU/hr. input (^{o}) 500 kW – output 670 BHP	-	-	-	8/3/05

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity**	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
81	8	ID. No. CT1, G.E. Frame 7 Simple Cycle Combustion Turbine (Model: GE7FA) (Constructed: 2-2001) Firing No. 2 distillate oil with a maximum sulfur content of 0.05% - backup	2037 mmBTU/hr – input 190.5 MW – output	Burner design and water injection GE 61% efficiency	CT1-81	NO_x	9/30/13
82		Firing natural gas – primary	1944.72 mmBTU/hr – input 185 MW – output	Burner design GE 92% efficiency	CT1-82	NO_x	9/30/13
83		Firing natural gas during peak firing - backup	1707.18 mmBTU/hr 166 MW – output	Burner design GE 87% efficiency	CT-83	NO_x	9/30/13
111	NA	Cone Shaped Fixed Roof Fuel Oil Storage Tank A (Constructed: 6-1990)	7.6 million gallons	-	-	-	8/3/05
112	NA	Cone Shaped Fixed Roof Fuel Oil Storage Tank B (Constructed: 6-1990)	7.6 million gallons	-	-	-	8/3/05

(*) Capacity rating based on lower heat rating of fuel. (^{o}) Capacity rating based on higher heat rating of fuel.
**The Size/Rated capacity is provided for informational purposes only, and is not an applicable requirement.

Power Production Equipment (Combined Cycle Combustion Turbine Facility and Auxiliary Equipment) Requirements- (emission unit ID#s 11/12, 13/14, 21/22, 23/24, 31/32, 33/34, 41/42, 43/44, 51/52, 61, 71, 111, and 112):

1. **Power Production Equipment Requirements - (emission unit ID#s 11/12, 13/14, 21/22, 23/24, 31/32, 33/34, 41/42, and 43/44) - Limitations** – Nitrogen oxide emissions from each combined cycle combustion turbine/heat recovery steam generator (HRSG) duct burner shall be controlled by either combustor design or steam injection followed by a selective catalytic reduction system when burning natural gas and by steam injection followed by selective catalytic reduction when burning distillate oil.
   (9 VAC 5-80-490 B and C and Specific Condition 3 of 8/3/05 Permit)

2. **Power Production Equipment Requirements - (emission unit ID#s 11/12, 13/14, 21/22, 23/24, 31/32, 33/34, 41/42, 43/44 and 51/52) - Limitations** – Sulfur dioxide emissions from each combined cycle combustion turbine/heat recovery steam generator (HRSG) duct burner and auxiliary boiler shall be controlled by using distillate oil which has a sulfur content by weight of 0.05% or lower and by the use of natural gas as defined in condition no. 3.
   (9 VAC 5-80-490 B and C and Specific Condition 4 of 8/3/05 Permit)

3. **Power Production Equipment Requirements - (emission unit ID#s 11/12, 13/14, 21/22, 23/24, 31/32, 33/34, 41/42, 43/44 and 51/52) - Limitations** – The approved fuels for the facility are pipeline quality natural gas (natural gas that is provided by a supplier through a pipeline) and No. 2 fuel oil which has a sulfur content by weight of 0.05% or lower. A change in the fuel may require a permit to modify and operate.
   (9 VAC 5-80-490 B and C and Specific Condition 24 of 8/3/05 Permit)

4. **Power Production Equipment Requirements - (emission unit ID#s 111 and 112) - Limitations** –Volatile organic compound emissions from the No. 2 fuel oil storage tanks shall be controlled by a fixed roof design with a pressure vacuum valve.
   (9 VAC 5-80-490 B and C and Specific Condition 5 of 8/3/05 Permit)

5. **Power Production Equipment Requirements - (emission unit ID#s 11/12, 21/22, 31/32, and 41/42) - Limitations** – Each combined cycle combustion turbine shall consume no more than 11.9 x 10^9 cubic feet of natural gas or 20.6 x 10^6 gallons of No. 2 fuel oil per year, calculated monthly as the sum of each consecutive twelve (12) month period. No.2 fuel oil usage shall be limited to 2,160 hours per year, calculated monthly as the sum of each consecutive 12 month period.
   (9 VAC 5-80-490 B and C and Specific Condition 6 of 8/3/05 Permit)

6. **Power Production Equipment Requirements - (emission unit ID#s 13/14, 23/24, 33/34, and 43/44) - Limitations** – Each duct burner shall consume no more than 1.6 x 10^9 cubic feet of natural gas or 4.43 x 10^6 gallons of No. 2 fuel oil per year, calculated monthly as the sum of each consecutive twelve (12) month period, based on the lower heating value of the fuels. No.2 fuel oil usage shall be limited to 2,160 hours per year, calculated monthly as the sum of each consecutive 12 month period.
   (9 VAC 5-80-490 B and C and Specific Condition 7 of 8/3/05 Permit)

7. **Power Production Equipment Requirements - (emission unit ID#s 51/52) - Limitations** – The auxiliary boiler shall consume no more than 3.50 x 10^8 cubic feet of natural gas or 6.27 x 10^5 gallons of No. 2 fuel oil per year, calculated monthly as the sum of each consecutive twelve (12) month period.
   (9 VAC 5-80-490 B and C and Specific Condition 8 of 8/3/05 Permit)

8. **Power Production Equipment Requirements - (emission unit ID# 71) - Limitations** - The emergency generator shall consume no more than 30,967 gallons of No. 2 fuel oil per year, calculated monthly as the sum of each consecutive twelve (12) month period.
(9 VAC 5-80-490 B and C and Specific Condition 9 of 8/3/05 Permit)

9. **Power Production Equipment Requirements - (emission unit ID#s 71, 11/12, 21/22, 31/32, and 41/42, and 51/52) - Limitations** - The emergency generator shall operate no more than two (2) hours in any given twenty four hour period concurrently with the operation of the combined cycle combustion turbines and auxiliary boiler on distillate oil, except during an emergency.
(9 VAC 5-80-490 B and C and Specific Condition 10 of 8/3/05 Permit)

10. **Power Production Equipment Requirements - (emission unit ID# 61) - Limitations** - The emergency fire water diesel pump shall consume no more than 10,468 gallons of No. 2 fuel oil per year, calculated monthly as the sum of each consecutive twelve (12) month period.
(9 VAC 5-80-490 B and C and Specific Condition 11 of 8/3/05 Permit)

11. **Power Production Equipment Requirements - (emission unit ID# 11/12, 21/22, 31/32, 41/42) - Limitations** – No combined cycle combustion turbine shall operate at less than conditions corresponding to 65 percent of maximum load, except during start-up, shutdown, malfunction and emergency situations. Please note that maximum load of the combustion turbine is corrected to ambient conditions.
(9 VAC 5-80-490 B and C and Specific Condition 12 of 8/3/05 Permit)

12. **Power Production Equipment Requirements - (emission unit ID#s 11/12, 13/14. 21/22, 23/24, 31/32, 33/34, 41/42, 43/44, 51/52, 61, 71, 111 and 112) - Limitations** - Visible emissions from each exhaust point at the combined cycle facility shall not exceed ten (10) % opacity except during periods of start-up, shutdown and malfunction.
(9 VAC 5-50-80, 9 VAC 5-80-490 B and C, 40 CFR 60.42Da, 40 CFR 60.43Dc and Specific Condition 23 of 8/3/05 Permit)

13. **Power Production Equipment Requirements - (emission unit ID#s 11/12, 21/22, 31/32, and 41/42) - Limitations** – Criteria pollutant emissions from the operation of each of the combined cycle turbines shall not exceed the limitations specified below:

Combined Cycle Combustion Turbine Operating on Natural Gas

PM (Total Suspended Particulate)	2.6×10^{-2} lbs/10^6 BTU	33.0 lbs/hr/turbine
PM-10 (Total)	2.6×10^{-2} lbs/10^6 BTU	33.0 lbs/hr/turbine
Sulfur Dioxide	2.9×10^{-3} lbs/10^6 BTU	3.7 lbs/hr/turbine
Nitrogen Oxides (as NO2)	emission limits shall be calculated as stated in condition 15 of this permit.	
Carbon Monoxide	---	25.0 lbs/hr/turbine
Volatile Organic Compounds	---	4.4 lbs/hr/turbine

Combined Cycle Combustion Turbine Operating on No. 2 Oil

PM (Total Suspended Particulate)	2.0 x 10^{-2} lbs/10^{6} BTU	24.7 lbs/hr/turbine
PM-10 (Total)	2.0 x 10^{-2} lbs/10^{6} BTU	24.7 lbs/hr/turbine
Sulfur Dioxide	5.71 x 10^{-2} lbs/10^{6} BTU	70.6 lbs/hr/turbine
Nitrogen Oxides (as NO2)	emission limits shall be calculated as stated in condition 15 of this permit.	
Carbon Monoxide	---	29.0 lbs/hr/turbine
Volatile Organic Compounds	---	7.8 lbs/hr/turbine
Pb	---	1.7 x 10^{-2} lbs/hr/turbine

NO_x emission limits shall be calculated as stated in condition 15 of this permit. When oil and natural gas are fired simultaneously, total emissions limits for the combination of a combined cycle combustion turbine and duct burner shall not exceed the sum of applicable fuel specific emission limits specified in conditions 13 and 14.
(9 VAC 5-80-490 B and C, and Specific Condition 13 of 8/3/05 Permit)

14. **Power Production Equipment Requirements - (emission unit ID#s 13/14, 23/24, 33/34, and 43/44) - Limitations** – Criteria pollutant emissions from each duct burner shall not exceed the limitations specified below:

Natural Gas

PM (Total Suspended Particulate)	1.92 x 10^{-2} lbs/10^{6} BTU	4.6 lbs/hr/duct burner
PM-10 (Total)	1.92 x 10^{-2} lbs/10^{6} BTU	4.6 lbs/hr/duct burner
Sulfur Dioxide	3.1 x 10^{-3} lbs/10^{6} BTU	0.8 lbs/hr/duct burner
Carbon Monoxide	---	19.7 lbs/hr/duct burner
Volatile Organic Compounds	---	2.4 lbs/hr/duct burner

No. 2 Fuel Oil

PM (Total Suspended Particulate)	3.0 x 10^{-2} lbs/10^{6} BTU	8.0 lbs/hr/duct burner
PM-10 (Total)	3.0 x 10^{-2} lbs/10^{6} BTU	8.0 lbs/hr/duct burner

No. 2 Fuel Oil

Sulfur Dioxide	5.71 x 10^{-2} lbs/10^{6} BTU	15.2 lbs/hr/duct burner
Carbon Monoxide	---	27.0 lbs/hr/duct burner
Volatile Organic Compounds	---	24.0 lbs/hr/duct burner
Pb	---	0.005 lbs/hr/duct burner

When oil and natural gas are fired simultaneously (note: duct burners do not have the capability to burn natural gas and oil simultaneously), total emission limits for the combination of a combined cycle combustion turbine and duct burner shall not exceed the sum of applicable fuel specific emission limits specified in conditions 13 and 14.
(9 VAC 5-80-490 B and C, 40 CFR 60.42Da, 40 CFR 60.43Da, 40 CFR 60.48Da and Specific Condition 14 of 8/3/05 Permit)

15. **Power Production Equipment Requirements - (emission unit ID#s 11/12, 13/14, 21/22, 23/24, 31/32, 33/34, 41/42 and 43/44) – Limitations** – The combined cycle combustion turbine/duct burner combination Nitrogen Oxide (NO_x) emissions shall not exceed the emission limit resulting from the calculation of the following from the equation in ppmvd corrected to 15% O_2:

$$E_s = \frac{[(H_{db\text{-}gas} * 0.10) + (H_{db\text{-}oil} * 0.12) + (H_{ct\text{-}gas} * 0.0332) + (H_{ct\text{-}oil} * 0.1166)] * 5.9}{(1.194 * 10^{-7}) * [8710 * (H_{db\text{-}gas} + H_{ct\text{-}gas}) + 9190 * (H_{db\text{-}oil} + H_{ct\text{-}oil})] * 20.9}$$

E_s is the allowable emissions in ppm @ 15% O_2

$H_{db\text{-}gas}$ is the heat input to the duct burner from natural gas (mmBTU/hr),
$H_{db\text{-}oil}$ is the heat input to the duct burner from oil (mmBTU/hr),
$H_{ct\text{-}gas}$ is the heat input to the combined cycle combustion turbine natural gas (mmBTU/hr)
$H_{ct\text{-}oil}$ is the heat input to the combined cycle combustion turbine from oil (mmBTU/hr)

The NO_x emissions shall be less than or equal to the calculated allowable limit 95% of the time (excluding periods of start-up shutdown and malfunction).
(9 VAC 5-80-490 B and C, 40 CFR 60.44Da, the alternative monitoring compliance plan and Specific Condition 15 of 8/3/05 Permit)

16. **Power Production Equipment Requirements - (emission unit ID#s 51/52) - Limitations** – Emissions from the operation of the auxiliary boiler shall not exceed the limitations below:

Natural Gas

	LBS/10^{6} BTU	LBS/HR
PM (Total Suspended Particulate)	0.02	0.9
PM-10 (Total)	0.02	0.9

Natural Gas

	LBS/10^6 BTU	LBS/HR
Sulfur Dioxide	0.003	0.1
Nitrogen Oxides	0.12	4.9
Carbon Monoxide	—	11.0
Volatile Organic Compounds	—	5.1

No. 2 Oil

	LBS/10^6 BTU	LBS/HR
PM (Total Suspended Particulate)	0.05	2.0
PM-10 (Total)	0.05	2.0
Sulfur Dioxide	0.054	2.2
Nitrogen Oxides	0.18	7.2
Carbon Monoxide	—	10.6
Volatile Organic Compounds	—	6.8
Pb	—	2.0×10^{-3}

(9 VAC 5-80-490 B and C, 40 CFR 60.42c, and Specific Condition 16 of 8/3/05 Permit)

17. **Emergency Engine Requirements - (emission unit ID#s 61 and 71) - MACT ZZZZ- National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines Requirements -** Except as specified in this permit, the facility is to be operated in compliance with all applicable Federal requirements under 40 CFR 63, Subpart ZZZZ. The permittee shall operate the emergency generator (emission unit 71) and the emergency diesel pump (emission unit 61) compliant with:

    a. Maintenance practices under 40 CFR 63.6603(a), Table 2d,
    b. Maintenance and operation practices, monitoring by a non-resettable hour meter, operating conditions, and management practices under 40 CFR 63.6625(e),(f),(h), and (i)
    c. Continuous compliance requirements under 40 CFR 63.6605 and 40 CFR 63.6640
    d. Recordkeeping requirements under 40 CFR 63.6655 (except 63.6655(c))
    e. Reporting requirements under 40 CFR 63, footnote 2 of Table 2d.

    (9 VAC 5-80-490 B and C and 40 CFR 63 Subpart ZZZZ)

18. **Power Production Equipment Requirements - (emission unit ID# 71) - Limitations** – Emissions from the operation of the emergency generator shall not exceed the limitations below:

	LBS/10^6 BTU	LBS/HR
Sulfur Dioxide	---	0.2
Nitrogen Oxides	4.22	18.0
Carbon Monoxide	---	2.0
Volatile Organic Compounds	---	0.6

(9 VAC 5-80-490 B and C and Specific Condition 17 of 8/3/05 Permit)

19. **Power Production Equipment Requirements - (emission unit ID# 61) - Limitations** – Emissions from the operation of the emergency diesel pump shall not exceed the limitations below:

	LBS/10^6 BTU	LBS/HR
Nitrogen Oxides	2.45	3.5
Carbon Monoxide	---	0.5

(9 VAC 5-80-490 B and C and Specific Condition 18 of 8/3/05 Permit)

20. **Power Production Equipment Requirements - (emission unit ID#s 11/12, 13/14, 21/22, 23/24, 31/32, 33/34, 41/42, 43/44, 51/52, 71, 111 and 112) - Limitations** – Not withstanding conditions 13, 14, 15, 16, and 18 of this permit, at no time shall total Volatile Organic Compound (VOC) emissions for the entire combined cycle facility exceed 213 tons per year. The Volatile Organic Compound emissions shall be calculated as follows:

$$VOC = (NG_{(ct)})(0.003 \text{ lbs}/10^3 \text{ ft}^3) + (NG_{(db)})(0.009 \text{ lbs}/10^3 \text{ ft}^3) + (NG_{(ab)})(0.12 \text{ lbs}/10^3 \text{ ft}^3) + (FO_{(ct)})(0.82 \text{ lbs}/10^3 \text{ gal}) + (FO_{(db)})(11.82 \text{ lbs}/10^3 \text{ gal}) + (FO_{(ab)})(21.94 \text{ lbs}/10^3 \text{ gal}) + (FO_{(dg)})(19.60 \text{ lbs}/10^3 \text{ gal}) + (FO_{(st)})$$

Where:
$NG_{(ct)}$ is the amount of natural gas fired in the combined cycle combustion turbine (10^3 scf),
$NG_{(db)}$ is the amount of natural gas fired in the duct burner (10^3 scf),
$NG_{(ab)}$ is the amount of natural gas fired in the auxiliary boiler (10^3 scf),
$FO_{(ct)}$ is the amount of fuel oil fired in the combined cycle combustion turbines (10^3 gallons),
$FO_{(db)}$ is the amount of fuel oil fired in the duct burner (10^3 gallons)

$FO_{(ab)}$ is the amount of fuel oil fired in the auxiliary boiler (10^3 gallons)
$FO_{(dg)}$ is the amount of fuel oil fired in the diesel generator (10^3 gallons), and
$FO_{(st)}$ is the amount of VOCs emitted during storage and handling of fuel oil (lbs.)

(9 VAC 5-80-490 B, C and E and Specific Condition 19 of 8/3/05 Permit)

21. **Power Production Equipment Requirements - (emission unit ID#s 11/12, 13/14, 21/22, 23/24, 31/32, 33/34, 41/42, 43/44, 51/52, 61, and 71) - Limitations** – Not withstanding conditions 15, 16, 18, and 19 of this permit, at no time shall total nitrogen dioxide emissions for the entire combined cycle facility exceed 1,666.7 tons per year. The nitrogen dioxide emissions shall be calculated as follows:

$$NO_X = (NG_{(ct)})(0.0332 \text{ lbs}/10^6 \text{ BTU})^{(1)} + (NG_{(db)})(0.10 \text{ lbs}/10^6 \text{ BTU})^{(1)} + (NG_{(ab)})(0.12 \text{ lbs}/10^3 \text{ BTU})^{(1)} + (FO_{(ct)})(0.1166 \text{ lbs}/10^6 \text{ BTU})^{(1)} + (FO_{(db)})(0.12 \text{ lbs}/10^6 \text{ BTU})^{(1)} + (FO_{(ab)})(0.18 \text{ lbs}/10^6 \text{ BTU}) + (FO_{(dg)})(4.22 \text{ lbs}/10^6 \text{ BTU}) + (FO_{(dp)})(2.45 \text{ lbs}/10^6 \text{ BTU})$$

Where:
$NG_{(ct)}$ is the heat input to the gas turbine from natural gas (10^6 BTU),
$NG_{(db)}$ is the heat input to the duct burner from natural gas (10^6 BTU),
$NG_{(ab)}$ is the heat input to the auxiliary boiler from natural gas (10^6 BTU),
$FO_{(ct)}$ is the heat input to the combined cycle turbine from fuel oil (10^6 BTU),
$FO_{(db)}$ is the heat input to the duct burner from fuel oil (10^6 BTU)
$FO_{(ab)}$ is the heat input to the auxiliary boiler from fuel oil (10^6 BTU)
$FO_{(dg)}$ is the heat input to the diesel generator from fuel oil (10^6 BTU), and
$FO_{(dp)}$ is the heat input to the diesel pump from fuel oil (10^6 BTU)

(1) Emissions calculated from continuous emission monitors which meet the requirements of 40 CFR Part 75, Appendix A in lieu of 40 CFR Part 60, Appendix B, Performance Specification 2 may be substituted in the above equation for the combined duct burner and combustion turbine emissions.

(9 VAC 5-80-490 B, C and E and Specific Condition 20 of 8/3/05 Permit)

22. **Power Production Equipment Requirements - (emission unit ID#s 11/12, 21/22, 31/32, and 41/42) – Limitations/Monitoring/Recordkeeping** – Based on the gas analysis for sulfur content, annual allowable sulfur dioxide emissions shall be calculated as follows:

Combined Cycle Combustion Turbine Per Unit:

$$SO_2 = \sum_{\text{Jan.}}^{\text{Dec.}} \frac{SCFNG}{\text{Month}} \times \frac{\text{Grains Total Sulfur}}{SCF} \times \frac{1 \text{ Pound}}{7{,}000 \text{ Grains}} \times \frac{1 \text{ Ton}}{2{,}000 \text{ Pounds}} \times \frac{2 \text{ Tons } SO_2}{\text{Ton S}} + 76.2$$

Duct Burner Per Unit:

$$SO_2 = \Sigma_{\text{Jan.}}^{\text{Dec.}} \text{Month} \left[\frac{\text{SCFNG}}{\text{Month}} \times \frac{\text{Grains Total Sulfur}}{\text{SCF}} \times \frac{1 \text{ Pound}}{7{,}000 \text{ Grains}} \times \frac{1 \text{ Ton}}{2{,}000 \text{ Pounds}} \times \frac{2 \text{ Tons } SO_2}{\text{Ton S}} + 16.4 \right]$$

Auxiliary Boiler:

$$SO_2 = \Sigma_{\text{Jan.}}^{\text{Dec.}} \text{Month} \left[\frac{\text{SCFNG}}{\text{Month}} \times \frac{\text{Grains Total Sulfur}}{\text{SCF}} \times \frac{1 \text{ Pound}}{7{,}000 \text{ Grains}} \times \frac{1 \text{ Ton}}{2{,}000 \text{ Pounds}} \times \frac{2 \text{ Tons } SO_2}{\text{Ton S}} + 2.3 \right]$$

Doswell Limited Partnership shall keep monthly records of natural gas consumption for each of the above units and total sulfur analysis for the purpose of computing the allowable emission rates. The sulfur analysis shall be performed in accordance with the alternative sampling schedule that has been approved by the Environmental Protection Agency.
(9 VAC 5-80-490 B, C and F, 40 CFR 60.333 and Specific Condition 26 of 8/3/05 Permit)

23. **Power Production Equipment Requirements - (emission unit ID#s 11/12, 13/14, 21/22, 23/24, 31/32, 33/34, 41/42, 43/44, 51/52, 61, 71, 111 and 112) - Limitations** – The entire combined cycle facility's emissions shall not exceed the following calculated as the sum of each consecutive 12 month period:

	TONS/YR
PM (TSP)	623.0
PM10	623.0
SO_2	432.6**
NO_X	1,666.7
CO	706.0
VOC	213.0
Pb	0.40

** This is the maximum SO_2 emission limit unless the summation of the calendar year amount calculated from the formula in Condition 22 of this permit is lower.

(9 VAC 5-80-490 B and C and Specific Condition 21 of 8/3/05 Permit)

24. **Power Production Equipment Requirements - (emission unit ID#s 13/14, 23/24, 33/34, 43/44, 11/12, 21/22, 31/32, and 41/42) - Monitoring** – Continuous emission monitoring systems (CEMS) shall be installed on each HRSG exhaust stack to measure and record, the concentration of nitrogen oxides and oxygen emitted from the combined combustion turbine and duct burner exhaust. They shall be maintained and calibrated in accordance with 40 CFR Part 75, Appendix B in lieu of 40

CFR Part 60, Appendix B and Appendix F. A 30 day notification prior to the demonstration of continuous monitoring system performance and subsequent notification requirements, are to be submitted to the Department (Director, Piedmont Regional Office).
(9 VAC 5-80-490 E and F and Specific Condition 27 of 8/3/05 Permit)

25. **Power Production Equipment Requirements - (emission unit ID#s 11/12, 13/14, 21/22, 23/24, 31/32, 33/34, 41/42, and 43/44) - Monitoring** – Continuous monitoring systems shall be installed to monitor and record the fuel oil and natural gas consumption as required in the alternative monitoring plan approved by US EPA. The monitoring systems shall be in operation at all times when the combined cycle turbines or turbine/duct burner combination are in operation. They shall be maintained and calibrated in accordance with the manufacturer's specifications
(9 VAC 5-80-490 E and Specific Condition 28 of 8/3/05 Permit)

26. **Power Production Equipment Requirements - (emission unit ID#s 11/12, 21/22, 31/32, and 41/42) – Monitoring/Recordkeeping** – Doswell Limited Partnership shall monitor the sulfur content of the No. 2 fuel oil being fired in the combined cycle combustion turbines in accordance with 40 CFR 60 Section 60.334(b). In accordance with the approved modified testing schedule Doswell Limited Partnership shall monitor the natural gas sulfur content twice per annum during the first and third quarter of each calendar year. If any sulfur analysis indicates noncompliance with 40 CFR 60.333 the owner or operator shall notify the US EPA Regional Office Air Division and the Piedmont Regional Office of such excess emissions and custom fuel monitoring schedule shall be conducted weekly during the interim period when this custom schedule is being re-examined. A change in the fuel supply shall also cause a review of the custom fuel-monitoring schedule. Records associated with the custom fuel-monitoring schedule shall be retained for a period of five (5) years.
(9 VAC 5-80-490 C, E and F and Specific Condition 29 of 8/3/05 Permit)

27. **Power Production Equipment Requirements – (emission unit ID #s 11/12, 21/22, 31/32, and 41/42) – Monitoring/Reporting** – Doswell Limited Partnership shall submit to the Department (Director, Piedmont Regional Office) reports during periods of excess emissions as required under Section 60.334(c)(2) and (3) of 40 CFR 60 Subpart GG every calendar quarter and as required in the approved alternative compliance plan. Doswell Limited Partnership shall submit and report excess NO_x emissions on a quarterly basis. Excess emissions shall be calculated as expressed in condition 15. In addition NO_X emission monitors shall be available at least 90% of the source operating time (excluding the period of time that the quality assurance check is being conducted). The CEM availability shall be calculated as follows:

$$A^* = \frac{\sum Hc}{\sum Ho} \times 100$$

Where:
A^*: is the percent of time that the CEM was available,
Hc: is the number of hours the CEM collected valid data and
Ho: is the number of hours that the combined cycle combustion turbine operated.
* The hours of valid data and the operating hours shall be summed over the most recent four quarters.

The NO_x emissions shall be less than or equal to the calculated allowable limit 95% of the time (excluding periods of start-up, shut down and malfunction). The percent of the time that emissions are less than or equal to allowable limits shall be calculated as follows:

$$C^* = \left(1 - \frac{\sum He}{\sum Hv}\right) \times 100$$

Where C is the percent of time that emissions are less than or equal to allowable limits,

H_e is the number of hours that emissions are greater than allowable limits, and
H_v is the number of hours that the CEM was collecting valid data.

* The number of hours that emissions are greater than allowable limits and the hours of valid data shall be summed over the most recent four quarters.

(9 VAC 5-80-490 E and Specific Condition 30 of 8/3/05 Permit)

28. **Power Production Equipment Requirements - (emission unit ID #s 11/12, 13/14, 21/22, 23/24, 31/32, 33/34, 41/42, 43/44, 51/52, 61, 71, and 81/82/83) – Limitations, Monitoring, Recordkeeping and Reporting** - Doswell Limited Partnership shall meet all applicable requirements of 40 CFR Part 60 Subpart GG – Standards of Performance for Stationary Gas Turbines and 40 CFR Part 60 Subpart Da – Standards of Performance for Electric Utility Steam Generating Units, except as provided in the federally approved alternative monitoring method for opacity and NO_X emissions from the combined cycle combustion turbines/HRSG duct burner firing; and 40 CFR Part 60, and Subpart Dc – Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units.
(9 VAC 5-80-490 E and F and Specific Condition 32 of 8/3/05 Permit)

29. **Power Production Equipment Requirements - (emission unit ID#s 13, 23, 33, and 43) - Monitoring** - Doswell Limited Partnership shall conduct opacity observations when oil is combusted in the duct burners. The opacity observation shall be conducted as a replacement for the continuous opacity monitor required in 40 CFR Subpart Da. The opacity observation shall be conducted at least once during each daylight shift that duct burners combust oil. The observer shall be certified in accordance with EPA Reference Test Method 9. The observation shall, at a minimum, consist of a six (6) minute visible emission observation recording the stack opacity readings every 15 seconds as required by Method 9 procedures. If the average opacity for a six (6) minute set of opacity readings exceeds 10%, the qualified VEE observer shall collect two additional six (6) minute sets of visible emissions readings for a total of three (3) sets.
(9 VAC 5-80-490 C, E and F, 40 CFR 60 Subpart Da and Specific Condition 33 of 8/3/05 Permit)

30. **Power Production Equipment Requirements - (emission unit ID# 13, 23, 33, and 43) – Monitoring/Recordkeeping** - Doswell Limited Partnership will record the quantity of distillate oil burned for each duct burner each calendar quarter and include this information in the EERs. If, based upon this information, the distillate oil annual capacity factor ever exceeds 10 percent for any of the duct burners, Doswell will no longer qualify to use this opacity monitoring alternative at that duct burner, and the company will propose a schedule for re-certifying the continuous opacity

monitor for the affected duct burner. The alternative opacity monitoring approval is valid only during operation on distillate oil, and the alternative may not be used if any other liquid or solid fuels are burned. All records required by this alternative opacity monitoring method shall be maintained for a period of five (5) years.
(9 VAC 5-80-490 B, C and E and Specific Condition 34 of 8/3/05 Permit)

31. **Power Production Equipment Requirements - (emission unit ID# all emission units except 13/14, 23/24, 33/34, and 43/44) – Monitoring/Recordkeeping -** The emissions from exhaust stacks (except the duct burner exhaust stacks) shall be observed visually at least once each calendar month for at least a brief time period during normal operations to determine if they have above normal visible emissions (does not include condensed water vapor/steam), unless a 40 CFR 60 Appendix A Method 9 visible emissions evaluation is performed on the emissions unit. Each emissions unit observed having above normal visible emissions shall be followed up with a 40 CFR 60 Appendix A Method 9 visible emissions evaluation unless the visible emission condition is corrected as expeditiously as possible and recorded, and the cause and corrective measures taken are recorded. If an emission point is not operated during the calendar month, then no visible emission observation needs to be performed and a negative declaration shall be entered in the record stating the emission unit was not in operation. Should emission point operation be limited or intermittent, and/or adverse conditions (e.g. weather or darkness) prevail during the limited or intermittent operating period, no visible emission observation needs to be performed and a negative declaration shall be entered in the record along with the date(s) of operation, the hours of operation of the emission unit and a notation indicating inclement weather.
(9 VAC 5-80-490 B, C, and E)

32. **Power Production Equipment Requirements - (emission unit ID#s 111 & 112) – Monitoring/Recordkeeping -** Records shall be kept demonstrating the pressure vacuum valves for fuel oil storage tanks A and B are in good operating order and the fixed roofs are in acceptable condition.
(9 VAC 5-80-490 B, C and E)

33. **Power Production Equipment Requirements - (emission unit ID# 51/52) – Monitoring/Recordkeeping -** Daily records shall be kept of the amounts of each fuel combusted during each day in the auxiliary boiler.
(9 VAC 5-80-490 B, C, and E and 40 CFR 60.48 c(g))

34. **Power Production Equipment Requirements - (emission unit ID# 13/14, 23/24, 33/34, and 43/44) – Monitoring/Recordkeeping -** The duct burners will be maintained as according to procedures and schedules recommended by the manufacturer. Records shall be kept demonstrating maintenance has been performed.
(9 VAC 5-80-490 B, C and E and Alternative Opacity Monitoring Method under NSPS Da dated March 1998)

35. **Power Production Equipment Requirements - (emission unit ID# 13, 23, 33, and 43) - Reporting -** Thirty days after the end of each calendar quarter in which there are opacity excess emissions during oil combustion, Doswell will submit an excess emission report (EER) to the Department (Director, Piedmont Regional Office) and the US EPA-Region III. If there are no opacity excess emissions during a calendar quarter, EERs will be submitted on a semiannual basis.

For reporting purposes, excess emissions are defined as any six minute period during which the average opacity exceeds 10 percent, except during startup, shutdown or malfunction, and EERs will indicate the total time of the visible emission observations during a calendar quarter and identify the duration of any excess emissions
(9 VAC 5-80-490 F and Specific Condition 31 of 8/3/05 Permit)

36. **Power Production Equipment Requirements - (emission unit ID# 13, 23, 33, and 43) – Monitoring/Recordkeeping** - After September 30, 1993 the maximum allowable sulfur content of the No. 2 fuel oil purchased shall not exceed 0.05% by weight. Doswell Limited Partnership shall maintain records of all oil shipments purchased, indicating sulfur content per shipment. These records shall be available on site for inspection by department personnel. They shall be kept on file for the most current five (5) year period.

    For the auxiliary boiler, the records shall also include the name of the oil supplier; and a statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in 40 CFR 60.41c. Along with these records, a certified statement signed by the owner or operator of the affected facility shall be reported each six-month period indicating that the records of fuel supplier certifications, submitted represent all of the fuel combusted during the reporting period. All reports shall be submitted to the Piedmont Region and Chief, Air Enforcement Branch (3AP13), U.S. EPA Region III and all records shall be available on site for inspection by department personnel. They shall be kept on file for the most current five (5) year period.
    (9 VAC 5-80-490 F, 40 CFR 60 Subpart Dc, and Specific Condition 25 of 8/3/05 Permit)

37. **Power Production Equipment Requirements - (emission unit ID# 11/12, 21/22, 31/32, 41/42, 13/14, 23/24, 33/34, 43/44, 51/52, 61, 71, 111 and 112) – Monitoring/Recordkeeping** - The permittee shall retain records of all emission data and operating parameters required to be monitored by the terms of this permit. These records shall be maintained by the source for the most current five (5) year period.
    (9 VAC 5-80-490 C and F and General Condition 3 of 8/3/05 Permit)

Simple Cycle Combustion Turbine Facility Requirements - (emission unit ID#s 81/82/83):

38. **Power Production Equipment Requirements - (emission unit ID# 81/82/83) - Limitations** – Nitrogen oxide (NO_x) emissions from the simple cycle combustion turbine (CT1) shall be controlled by the utilization of a dry low NO_x combustor when firing natural gas and by water injection when firing No. 2 distillate fuel oil. The simple cycle combustion turbine (CT1) shall be provided with adequate access for inspection.
    (9 VAC 5-80-490 B and C and Condition 2 of 9/30/13 Permit)

39. **Power Production Equipment Requirements - (emission unit ID# 81/82/83) - Limitations** – Sulfur dioxide emissions from the simple cycle combustion turbine (CT1) shall be controlled by the use of low sulfur fuels.
    (9 VAC 5-80-490 B and C and Condition 3 of 9/30/13 Permit)

40. **Power Production Equipment Requirements - (emission unit ID# 81/82/83) - Limitations** – Particulate matter (PM) emissions from the simple cycle combustion turbine shall be controlled by the use of clean burning fuels and good combustion operating practices.
    (9 VAC 5-80-490 B and C and Condition 4 of 9/30/13 Permit)

41. **Power Production Equipment Requirements - (emission unit ID# 81/82/83) - Limitations** – Volatile organic compounds and carbon monoxide emissions from the simple cycle combustion turbine (CT1) shall be controlled by the use of good combustion operating practices.
(9 VAC 5-80-490 B and C and Condition 5 of 9/30/13 Permit)

42. **Power Production Equipment Requirements - (emission unit ID# 81/82/83) - Limitations** – The approved fuels for the simple cycle combustion turbine are pipeline quality natural gas (natural gas that is provided by a supplier through a pipeline) (primary fuel) and No. 2 distillate fuel oil (back-up fuel). Distillate oil is defined as fuel oil that meets the specifications for Fuel Oil Numbers 1 or 2 under the American Society for Testing and Materials, ASTM 396 Standard Specifications for Fuel Oils, or other approved ASTM method, incorporated in 40 CFR 60 by reference. A change in the fuel may require a permit to modify and operate.
(9 VAC 5-80-490 B, C, and E and Condition 6 of 9/30/13 Permit)

43. **Power Production Equipment Requirements - (emission unit ID# 82/83) - Limitations** – The maximum sulfur content of the natural gas to be burned in the simple cycle combustion turbine (CT1) shall not exceed one (1) grain per 100 dry standard cubic feet.
(9 VAC 5-80-490 B, C and E, 40 CFR 60.333 and Condition 7 of 9/30/13 Permit)

44. **Power Production Equipment Requirements - (emission unit ID# 81) - Limitations** – The maximum sulfur content of the oil purchased to be fired in the simple cycle combustion turbine shall not exceed 0.05 weight percent per shipment.
(9 VAC 5-80-490 B, C and E, 40 CFR 60.333 and Condition 8 of 9/30/13 Permit)

45. **Power Production Equipment Requirements - (emission unit ID# 81/82/83) - Limitations** - The simple cycle combustion turbine shall consume no more than the heat input quantity of natural gas and No.2 distillate oil fuel annually, calculated daily as the sum of each consecutive 365 day period, as follows:

    a. Total heat input from the combustion of natural gas during peak firing (designated as “A”) in the simple cycle combustion turbine shall not exceed 85,359 mmBTU (HHV) per year (100,000 BTU/100 scf of natural gas) as follows:

       A=Number of cubic feet of natural gas burned during peak firing x (100,000 Btu/100 scf of natural gas)

    b. Total heat input from the combustion of natural gas at 100% design heat input (designated as “B”) in the simple cycle combustion turbine shall not exceed 2,917,080 mmBTU (HHV) per year (100,000 BTU/100 scf of natural gas) as follows:

       B= Number of cubic feet of natural gas burned at 100% design heat input x (100,000 Btu/100 scf of natural gas)

    c. Total heat input from the combustion of No. 2 distillate oil at 100% design heat input (designated as “C”) in the simple cycle combustion turbine shall not exceed 611,100 mmBTU (HHV) per year (138,000 BTU/gallon) as follows:

       C = Number of gallons of no. 2 distillate oil burned x (138,000 Btu/gallon)

d. The combined total heat input to the simple cycle combustion turbine shall not exceed 3,613,539 mmBTU (HHV) per year for No. 2 distillate oil, natural gas at 100% design heat input, and natural gas during peak firing as follows:

$A^* + B^* + C^* \leq$ 3,613,539 MMBtu (HHV) per year

* As defined under 44. a, b, and c respectively

(9 VAC 5-80-490 B and C and Condition 11 of 9/30/13 Permit)

46. **Power Production Equipment Requirements - (emission unit ID# 81/82/83) – Limitations, Monitoring, Recordkeeping, and Reporting** – Except as specified in this permit the simple cycle combustion turbine (CT1) is to be operated in compliance with all applicable requirements of 40 CFR Part 60, Subpart GG - Standards of Performance for Stationary Gas Turbines.
(9 VAC 5-80-490 B, C and E and Condition 12 of 9/30/13 Permit)

47. **Power Production Equipment Requirements - (emission unit ID# 81/82/83) - Limitations** - Visible emissions from the simple cycle combustion turbine (CT1) exhaust stack shall not exceed ten (10) percent opacity except during one six-minute period in any one hour in which visible emissions shall not exceed twenty (20) percent opacity as determined by the EPA Method 9 (reference 40 CFR 60, Appendix A). This condition applies at all times except during startup, shutdown, and malfunction.
(9 VAC 5-80-490 B, C and E and Condition 23 of 9/30/13 Permit)

48. **Power Production Equipment Requirements - (emission unit ID# 82) - Limitations** – Short-term emission limits from the operation of the simple cycle combustion turbine (CT1) while fired on natural gas, at 100% design heat input based on higher heating value (HHV), shall not exceed the limits specified below (except during start-up, shutdown and malfunction conditions):

Particulate Matter (PM)	4.63×10^{-3}	lb/MMBtu	9.0	lbs/hr
PM-10 (Total)	1.61×10^{-2}	lbs/MMBtu	31.3	lbs/hr
PM-2.5 (Total)	1.61×10^{-2}	lbs/MMBtu	31.3	lbs/hr
Sulfur Dioxide	2.57×10^{-3}	lbs/MMBtu	5.0	lbs/hr
Nitrogen Oxides (as NO2)	9 ppmvd @ 15% O_2 (1-hour average)		64.0	lbs/hr
Volatile Organic Compounds	----------		5.0	lbs/hr
Carbon Monoxide	----------		32.0	lbs/hr

(9 VAC 5-80-490 B and C, and Condition 13 of 9/30/13 Permit)

49. **Power Production Equipment Requirements - (emission unit ID# 83) - Limitations** – Short-term emission limits from the operation of the simple cycle combustion turbine (CT1) while **peak fired on natural gas** based on higher heating value (HHV) shall not exceed the limits specified below (except during start-up, shutdown and malfunction conditions):

Particulate Matter (PM)	5.27×10^{-3}	lb/MMBtu	9.0	lbs/hr
PM-10 (Total)	1.83×10^{-2}	lbs/MMBtu	31.3	lbs/hr
PM-2.5 (Total)	1.83×10^{-2}	lbs/MMBtu	31.3	lbs/hr
Sulfur Dioxide	2.93×10^{-3}	lbs/MMBtu	5.0	lbs/hr
Nitrogen Oxides (as NO2)	15 ppmvd @ 15% O_2 (1-hour average)		110.0	lbs/hr
Volatile Organic Compounds	----------		5.0	lbs/hr
Carbon Monoxide	----------		53.5	lbs/hr

(9 VAC 5-80-490 B and C, and Condition 14 of 9/30/13 Permit)

50. **Power Production Equipment Requirements - (emission unit ID# 81) - Limitations** – Short-term emission limits from the operation of the simple cycle combustion turbine (CT1) while **fired on No. 2 distillate fuel oil** at 100% design heat input based on higher heating value (HHV) shall not exceed the limits specified below (except during start-up, shutdown and malfunction conditions):

Particulate Matter (PM)	8.35×10^{-3}	lb/MMBtu	17.0	lbs/hr
PM-10 (Total)	2.23×10^{-2}	lbs/MMBtu	45.5	lbs/hr
PM-2.5 (Total)	2.23×10^{-2}	lbs/MMBtu	45.5	lbs/hr
Sulfur Dioxide	5.15×10^{-2}	lbs/MMBtu	105.0	lbs/hr
Nitrogen Oxides (as NO2)	42 ppmvd @ 15% O_2 (1-hour average)		343.0	lbs/hr
Volatile Organic Compounds	----------		7.5	lbs/hr
Carbon Monoxide	----------		97.0	lbs/hr

(9 VAC 5-80-490 B and C, and Condition 15 of 9/30/13 Permit)

51. **Power Production Equipment Requirements - (emission unit ID# 81/82/83) - Limitations (Start-up and Shutdown)** – In conjunction with stack tests and based on the DEQ's Piedmont Regional Office's (PRO) approval, the permittee's definitions of start-up and shut down shall be defined as follows:

    Startup is the time from "flame on" plus 1 hour rounded to the next clock hour. Shutdown is the time the "stop" command is given plus 1 hour rounded to the next clock hour.

    (9 VAC 5-80-490 B and C and Condition 16 of 9/30/13 Permit)

52. **Power Production Equipment Requirements - (emission unit ID# 81/82/83) - Limitations** – Annual emissions from the permittee's Simple Cycle Combustion Turbine Facility shall not exceed the limits specified below:

Particulate Matter (PM)	9.5 tons/yr
PM-10 (Total)	31.1 tons/yr
PM-2.5 (Total)	31.1 tons/yr
Sulfur Dioxide	19.6 tons/yr
Nitrogen Oxides (as NO2)	102.2 tons/yr
Volatile Organic Compounds	5.0 tons/yr
Carbon Monoxide	39.9 tons/yr

    (9 VAC 5-80-490 B and C and Condition 17 of 9/30/13 Permit)

53. **Power Production Equipment Requirements - (emission unit ID# 81/82/83) - Limitations** – The combined annual nitrogen oxides emission rate for a combination of natural gas and low sulfur fuel oil for the simple cycle combustion turbine shall not exceed a total of 102.2 tons per year, calculated daily as the sum of each consecutive 365 day period.
    (9 VAC 5-80-490 B and C and Condition 18 of 9/30/13 Permit)

54. **Power Production Equipment Requirements - (emission unit ID# 81/82/83) - Limitations** – The simple cycle combustion turbine shall not operate at less than conditions corresponding to 50 percent simple cycle combustion turbine design maximum load corrected to ambient conditions, except during start-up, shut down, malfunction and emergency situations.
    (9 VAC 5-80-490 B, C and E and Condition 20 of 9/30/13 Permit)

55. **Power Production Equipment Requirements - (emission unit ID# 82/83) – Monitoring/Recordkeeping** – The permittee shall monitor the sulfur content of the natural gas being fired in the simple cycle combustion turbine (CT1), in accordance with the custom-monitoring schedule approved for the site. Specifically, sulfur content sample analysis shall be conducted twice per calendar year during the first and third quarter of each year. If any sulfur

analysis indicates noncompliance with 40 CFR 60.333 the owner or operator shall notify the U.S. EPA Regional Office Air Division of such excess emissions and the custom fuel monitoring schedule shall be conducted weekly during the interim period when this schedule is being re-examined. A change in the fuel supply shall also cause a review of the custom fuel-monitoring schedule. Records associated with the custom fuel-monitoring schedule shall be retained for a period of five (5) years.
(9 VAC 5-80-490 C, E and F and Condition 9 of 9/30/13 Permit)

56. **Power Production Equipment Requirements - (emission unit ID# 81) – Monitoring/Recordkeeping** – The permittee shall test the No. 2 distillate oil for sulfur content on each occasion that fuel is transferred (as referenced in Appendix A of 40 CFR 60) to the storage tank, from any other source. Fuel oil sulfur content shall be determined using ASTM D2880 or another approved ASTM method incorporated in 40 CFR 60 by reference. Initial test methods and changes to test methods used by the permittee to determine sulfur content shall be submitted to and approved by the Piedmont Regional Office (PRO) of the DEQ. Records of fuel oil sulfur content shall be available on site for inspection by DEQ personnel. They shall be kept on file for the most current five-year period.
(9 VAC 5-80-490 C, E and F and Condition 10 of 9/30/13 Permit)

57. **Power Production Equipment Requirements - (emission unit ID# 81/82/83) - Monitoring** – The nitrogen oxide emission monitor required by this permit, the continuous monitoring data, and the quality assurance data shall, at the discretion of the Board, be used to determine compliance with the NO_x emission limits and/or relevant emission standards. Each monitor is subject to such data capture requirements and/or quality assurance requirements as specified in this permit and as may be deemed appropriate by the Board (40 CFR 75).
(9 VAC 5-80-490 B, C and E and Condition 19 of 9/30/13 Permit)

58. **Power Production Equipment Requirements - (emission unit ID# 81/82/83) - Monitoring** – Continuous emission monitoring (CEM) systems shall be installed on the simple cycle combustion turbine exhaust stack to measure and record the concentration of nitrogen oxides (measured as NO_x) emitted from the simple cycle combustion turbine (CT1) exhaust stack. Each nitrogen oxide emissions monitor shall be collocated with an O_2 monitor.

    a. The monitors shall be located, maintained, and calibrated in accordance with performance specifications and test procedures identified in 40 CFR 75. The quality assurance of data generated by the CEMS shall be demonstrated by implementing or exceeding the minimum requirements for CEM quality assurance as defined in 40 CFR 75.

    b. The Piedmont Regional Office (PRO) of the DEQ shall be notified in writing at least (30) days prior to the demonstration of the continuous monitoring system performance. Subsequent similar notification requirements are to be submitted to the Piedmont Regional Office (PRO) of the DEQ.

    (9 VAC 5-80-490 C, E and F and Condition 21 of 9/30/13 Permit)

59. **Power Production Equipment Requirements - (emission unit ID# 81/82/83) - Monitoring** – The nitrogen oxides CEMS required by this permit shall meet a minimum data capture of 90 percent of the simple cycle combustion turbine (CT1) facility operating hours, calculated quarterly as the sum of each consecutive four quarters. The CEM availability shall be calculated as follows:

$$A^* = \frac{\sum Hc}{\sum Ho} \times 100$$

Where:
A^*: is the percent of time that the CEM was available,
Hc: is the number of hours the CEM collected valid data and
Ho: is the number of hours that the combined cycle combustion turbine operated.
* The hours of valid data and the operating hours shall be summed over the most recent four quarters.

The NO_x emissions shall be less than or equal to the calculated allowable limit 95% of the time (excluding periods of start-up, shut down and malfunction). The percent of the time that emissions are less than or equal to allowable limits shall be calculated as follows:

$$C^* = \left(1 - \frac{\sum He}{\sum Hv}\right) \times 100$$

Where C is the percent of time that emissions are less than or equal to allowable limits,

H_e is the number of hours that emissions are greater than allowable limits,

and

H_v is the number of hours that the CEM was collecting valid data.

* The number of hours that emissions are greater than allowable limits and the hours of valid data shall be summed over the most recent four quarters.

(9 VAC 5-80-490 C, E and F and Condition 22 of 9/30/13 Permit)

60. **Power Production Equipment Requirements - (emission unit ID# 81/82/83) - Monitoring** – In the event of a nitrogen oxide CEM failure, the permittee must either:

1. Use the maximum allowable hourly NO_x emission rate, for each hour of operation where CEM data is not available. This data shall be included in the rolling 365 day emission summation; or
2. Estimate emissions as stated in 40 CFR 75 Subpart D.

(9 VAC 5-80-490 C, E and F and Condition 23 of 9/30/13 Permit)

61. **Power Production Equipment Requirements - (emission unit ID# 81/82/83) – Monitoring/Recordkeeping** - The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Piedmont Regional Office (PRO) of the DEQ. These records shall be available on site for inspection by the DEQ and shall be current for the most recent five (5) years.
(9 VAC 5-80-490 B, C and E and Condition 24 of 9/30/13 Permit)

62. **Power Production Equipment Requirements - (emission unit ID# 81/82/83) - Reporting -** The permittee shall submit quarterly excess emission reports to the Piedmont Regional Office (PRO) of the DEQ within 30 days after the end of each calendar quarter or semi-annually as needed. Details of the quarterly reports are to be arranged with the Piedmont Regional Office (PRO). Each quarterly report shall cover, at a minimum, the dates included in the calendar quarter and provide the following information for each day in the quarter, report each hour in which a nitrogen oxides permit limit is exceeded, copy of the written notification and corrective action taken. The report shall include the following for each excess emission of nitrogen oxides (NO_x): start time, duration, equipment involved actual NO_x emissions in ppmvd @ 15% O_2, fuel type and consumption rate in BTUs, and the simple cycle combustion turbine (CT1) load. If, during the calendar quarter, there are no times when a nitrogen oxides permit limit is exceeded, the permittee shall state in the quarterly report that no such events occurred during the affected calendar quarter.
(9 VAC 5-80-490 F and Condition 25 of 9/30/13 Permit)

Facility Wide Conditions

63. **Facility Wide Conditions - Testing -** The permitted facility shall be constructed so as to allow for emissions testing at any time using appropriate methods. Upon request from the Department, test ports shall be provided at the appropriate locations.
(9 VAC 5-80-490 E and F, General Condition 1 of 8/3/05 Permit, and Condition 26 of 9/30/13 Permit)

64. **Facility Wide Conditions - Testing -** If testing is conducted in addition to the monitoring specified in this permit, the permittee shall use the appropriate method(s) in accordance with procedures approved by the DEQ.
(9 VAC 5-80-490 E)

Insignificant Emission Units

65. **Insignificant Emission Units -** The following emission units at the facility are identified in the application as insignificant emission units under 9 VAC 5-80-720:

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (9 VAC 5-80-720B)	Rated Capacity (9 VAC 5-80-720C)
5	132 MW Steam Turbine	9 VAC 5-80-720 B.	None	————————
6	132 MW Steam Turbine	9 VAC 5-80-720 B.	None	————————
1	Ammonia Storage	9 VAC 5-80-720 B.	Ammonia	10,000 gal. each
2	Ammonia Storage	9 VAC 5-80-720 B.	Ammonia	10,000 gal. each
WT	Water Treatment Facility	9 VAC 5-80-720 A. 43	N/A	N/A

These emission units are presumed to be in compliance with all requirements of the federal Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping, or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110.

Permit Shield & Inapplicable Requirements

66. **Permit Shield & Inapplicable Requirements** - Compliance with the provisions of this permit shall be deemed compliance with all applicable requirements in effect as of the permit issuance date as identified in this permit. This permit shield covers only those applicable requirements covered by terms and conditions in this permit and the following requirements which have been specifically identified as being not applicable to this permitted facility:

Citation	Title of Citation	Description of Applicability
40 CFR 60 Subpart GG	Standards of Performance for Stationary Gas Turbines	Indirect measure of NO_x (water to fuel ratio) replaced with direct measure.
40 CFR 60 Subpart GG	Standards of Performance for Stationary Gas Turbines	Exempt from testing for nitrogen content in natural gas because no allowance is provided for nitrogen in the fuel when natural gas is fired.
40 CFR 60 Subpart GG	Standards of Performance for Stationary Gas Turbines	Modified schedule for sampling sulfur in natural gas.
40 CFR 72	Acid Rain Program	Combined cycle facility exempt from requirements of the acid rain program because it held a qualifying power purchase commitment prior to Nov. 15, 1990 (40 CFR 72.6(b)(6)(l) and (ii)
40 CFR 60 Subpart Kb	Standards of Performance for Volatile Organic Liquid Storage Vessels (including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984.	40 CFR 60 Subpart Kb is not applicable as per 40 CFR 60.110b (b) to the two fuel oil storage tanks each with a capacity of 7.6 million gals and each with a maximum true vapor pressure less than 3.5 kilopascals.
40 CFR 60 Subpart KKKK	Standards of Performance for Stationary Combustion Turbines	Turbines have not been installed or modified after February 18, 2005.

Citation	Title of Citation	Description of Applicability
40 CFR 63 Subpart YYYY	National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines	Applies only at major sources of HAP. DLP is not a major source of HAP.

Nothing in this permit shield shall alter the provisions of §303 of the federal Clean Air Act, including the authority of the administrator under that section, the liability of the owner for any violation of applicable requirements prior to or at the time of permit issuance, or the ability to obtain information by (i) the administrator pursuant to §114 of the federal Clean Air Act, (ii) the Board pursuant to §10.1-1314 or §10.1-1315 of the Virginia Air Pollution Control Law or (iii) the Department pursuant to §10.1-1307.3 of the Virginia Air Pollution Control Law.
(9 VAC 5-80-500)

General Conditions

67. **General Conditions - Federal Enforceability** - All terms and conditions in this permit are enforceable by the administrator and citizens under the federal Clean Air Act, except those that have been designated as only state-enforceable.
(9 VAC 5-80-490 N)

68. **General Conditions - Permit Expiration** - This permit has a fixed term of five years. The expiration date shall be the date five years from the effective date of the permit. Unless the owner submits a timely and complete renewal application to the DEQ consistent with the requirements of 9 VAC 5-80-430, the right of the facility to operate shall terminate upon permit expiration.
(9 VAC 5-80-430 B, C, and F, 9 VAC 5-80-490 D and 9 VAC 5-80-530 B)

69. **General Conditions - Permit Expiration** - The owner shall submit an application for renewal at least six months but no earlier than eighteen months prior to the date of permit expiration.
(9 VAC 5-80-430 B, C, and F, 9 VAC 5-80-490 D and 9 VAC 5-80-530 B)

70. **General Conditions - Permit Expiration** - If an applicant submits a timely and complete application for an initial permit or renewal under this section, the failure of the source to have a permit or the operation of the source without a permit shall not be a violation of Article 3, Part II of 9 VAC 5 Chapter 80, until the Board takes final action on the application under 9 VAC 5-80-510.
(9 VAC 5-80-430 B, C, and F, 9 VAC 5-80-490 D and 9 VAC 5-80-530 B)

71. **General Conditions - Permit Expiration** - No source shall operate after the time that it is required to submit a timely and complete application under subsections C and D of 9 VAC 5-80-430 for a renewal permit, except in compliance with a permit issued under Article 3, Part II of 9 VAC 5 Chapter 80.
(9 VAC 5-80-430 B, C, and F, 9 VAC 5-80-490 D and 9 VAC 5-80-530 B)

72. **General Conditions - Permit Expiration** - If an applicant submits a timely and complete application under section 9 VAC 5-80-430 for a permit renewal but the Board fails to issue or deny the renewal permit before the end of the term of the previous permit, (i) the previous permit shall not expire until the renewal permit has been issued or denied and (ii) all the terms and conditions of

the previous permit, including any permit shield granted pursuant to 9 VAC 5-80-500, shall remain in effect from the date the application is determined to be complete until the renewal permit is issued or denied.
(9 VAC 5-80-430 B, C, and F, 9 VAC 5-80-430 D and 9 VAC 5-80-530 B)

73. **General Conditions - Permit Expiration** - The protection under subsections F 1 and F 5 (ii) of section 9 VAC 5-80-430 shall cease to apply if, subsequent to the completeness determination made pursuant section 9 VAC 5-80-430 D, the applicant fails to submit by the deadline specified in writing by the Board any additional information identified as being needed to process the application.
(9 VAC 5-80-430 B, C, and F, 9 VAC 5-80-490 D and 9 VAC 5-80-530 B)

74. **General Conditions -Recordkeeping and Reporting** - All records of monitoring information maintained to demonstrate compliance with the terms and conditions of this permit shall contain, where applicable, the following:

    a. The date, place as defined in the permit, and time of sampling or measurements;

    b. The date(s) analyses were performed;

    c. The company or entity that performed the analyses;

    d. The analytical techniques or methods used;

    e. The results of such analyses; and

    f. The operating conditions existing at the time of sampling or measurement.

    (9 VAC 5-80-490 F)

75. **General Conditions -Recordkeeping and Reporting** - Records of all monitoring data and support information shall be retained for at least five years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit.
(9 VAC 5-80-490 F)

76. **General Conditions -Recordkeeping and Reporting** - The permittee shall submit the results of monitoring contained in any applicable requirement to DEQ no later than March 1 and September 1 of each calendar year. This report must be signed by a responsible official, consistent with 9 VAC 5-80-430 G, and shall include:

    a. The time period included in the report. The time periods to be addressed are January 1 to June 30 and July 1 to December 31; and

    b. All deviations from permit requirements. For purpose of this permit, deviations include, but are not limited to:

        i. Exceedance of emissions limitations or operational restrictions;

ii. Excursions from control device operating parameter requirements, as documented by continuous emission monitoring, periodic monitoring, or Compliance Assurance Monitoring (CAM) which indicates an exceedance of emission limitations or operational restrictions; or,

iii. Failure to meet monitoring, recordkeeping, or reporting requirements contained in this permit.

c. If there were no deviations from permit conditions during the time period, the permittee shall include a statement in the report that "no deviations from permit requirements occurred during this semi-annual reporting period."

(9 VAC 5-80-490 F)

77. **General Conditions - Annual Compliance Certification** - Exclusive of any reporting required to assure compliance with the terms and conditions of this permit or as part of a schedule of compliance contained in this permit, the permittee shall submit to EPA and DEQ no later than March 1 each calendar year a certification of compliance with all terms and conditions of this permit including emission limitation standards or work practices for the period ending December 31. The compliance certification shall comply with such additional requirements that may be specified pursuant to §114(a)(3) and §504(b) of the federal Clean Air Act. The permittee shall maintain a copy of the certification for five (5) years after submittal of the certification. This certification shall be signed by a responsible official, consistent with 9 VAC 5-80-430 G, and shall include:

a. The time period included in the certification. The time period to be addressed is January 1 to December 31;

b. The identification of each term or condition of the permit that is the basis of the certification;

c. The compliance status;

d. Whether compliance was continuous or intermittent, and if not continuous, documentation of each incident of non-compliance;

e. Consistent with subsection 9 VAC 5-80-490 E, the method or methods used for determining the compliance status of the source at the time of certification and over the reporting period;

f. Such other facts as the permit may require to determine the compliance status of the source; and

g. One copy of the annual compliance certification shall be submitted to EPA in electronic format only. The certification document should be sent to the following electronic mailing address:

R3_APD_Permits@epa.gov

(9 VAC 5-80-490 K.5)

78. **General Conditions - Permit Deviation Reporting** - The permittee shall notify the Director, Piedmont Regional Office (PRO) within four daytime business hours after discovery of any deviations from permit requirements which may cause excess emissions for more than one hour, including those attributable to upset conditions as may be defined in this permit. In addition, within 14 days of the discovery, the permittee shall provide a written statement explaining the problem, any corrective actions or preventative measures taken, and the estimated duration of the permit deviation. Owners subject to the requirements of 9 VAC 5-40-50 C and 9 VAC 5-50-50 C are not required to provide the written statement prescribed in this paragraph for facilities subject to the monitoring requirements of 9 VAC 5-40-40 and 9 VAC 5-50-40. The occurrence should also be reported in the next semi-annual compliance monitoring report pursuant to Condition 76 of this permit.
(9 VAC 5-80-490 F.2)

79. **General Conditions - Failure/Malfunction Reporting** - In the event that any affected facility or related air pollution control equipment fails or malfunctions in such a manner that may cause excess emissions for more than one hour, the owner shall, as soon as practicable but no later than four daytime business hours after the malfunction is discovered, notify the Director, Piedmont Regional Office (PRO) by facsimile transmission, telephone or telegraph of such failure or malfunction and shall within 14 days of discovery provide a written statement giving all pertinent facts, including the estimated duration of the breakdown. Owners subject to the requirements of 9 VAC 5-40-50 C and 9 VAC 5-50-50 C are not required to provide the written statement prescribed in this paragraph for facilities subject to the monitoring requirements of 9 VAC 5-40-40 and 9 VAC 5-50-40. When the condition causing the failure or malfunction has been corrected and the equipment is again in operation, the owner shall notify the Director, Piedmont Regional Office (PRO).
(9 VAC 5-20-180 C)

80. **General Conditions - Failure/Malfunction Reporting** - The emission units that have continuous monitors subject to 9 VAC 5-40-50 C and 9 VAC 5-50-50 C are not subject to the 14 day written notification.
(9 VAC 5-20-180 C, 9 VAC 5-40-50, and 9 VAC 5-50-50)

81. **General Conditions - Failure/Malfunction Reporting** - The emission units subject to the reporting and the procedure requirements of 9 VAC 5-40-50 C and the procedures of 9 VAC 5-50-50 C are listed below:

    a. Id. No. 501, Kraftwerk Union Combined Cycle Combustion Turbine – Model V84.2 (emission unit: 11/12)

    b. Id. No. 501, Nooter-Erickson Heat Recovery Steam Generator (HRSG) with John Zinc duct burner – (emission unit: 13/14)

    c. Id. No. 502, Kraftwerk Union Combined Cycle Combustion Turbine – Model V84.2 (emission unit: 21/22)

    d. Id. No. 502, Nooter-Erickson Heat Recovery Steam Generator (HRSG) with John Zinc duct burner – (emission unit: 23/24)

    e. Id. No. 601, Kraftwerk Union Combined Cycle Combustion Turbine – Model V84.2 – (emission unit: 31/32)

f. Id. No. 601, Nooter-Erickson Heat Recovery Steam Generator (HRSG) with John Zinc duct burner – (Emission unit: 33/34)

g. Id. No. 602, Kraftwerk Union Combined Cycle Combustion Turbine – Model V84.2 (emission unit: 41/42)

h. Id. No. 602, Nooter-Erickson Heat Recovery Steam Generator (HRSG) with John Zinc duct burner – (emission unit: 43/44)

i. Id. No. CT1, G.E. Frame 7 Simple Cycle Combustion Turbine – Model GE7FA (emission unit: 81/82/83)

(9 VAC 5-20-180 C, 9 VAC 5-40-50, and 9 VAC 5-50-50)

82. **General Conditions - Failure/Malfunction Reporting** - Each owner required to install a continuous monitoring system (CMS) or monitoring device subject to 9 VAC 5-40-41 or 9 VAC 5-50-410 shall submit a written report of excess emissions (as defined in the applicable emission standard) to the board for every calendar quarter. All quarterly reports shall be postmarked by the 30th day following the end of each calendar quarter. All reports shall include the following information:

a. The magnitude of excess emissions computed in accordance with 40 CFR 60.13(h) or 9 VAC 5-40-41 B.6, any conversion factors used, and the date and time of commencement and completion of each period of excess emissions;

b. Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the source. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted;

c. The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments; and

d. When no excess emissions have occurred or the continuous monitoring systems have not been inoperative, repaired or adjusted, such information shall be stated in the report.

All malfunctions of emission units not subject to 9 VAC 5-40-50 C and 9 VAC 5-50-50 C require written reports within 14 days of the discovery of the malfunction.
(9 VAC 5-20-180 C, 9 VAC 5-40-50, and 9 VAC 5-50-50)

83. **General Conditions - Severability** - The terms of this permit are severable. If any condition, requirement or portion of the permit is held invalid or inapplicable under any circumstance, such invalidity or inapplicability shall not affect or impair the remaining conditions, requirements, or portions of the permit.
(9 VAC 5-80-490 G.1)

84. **General Conditions - Duty to Comply** - The permittee shall comply with all terms and conditions of this permit. Any permit noncompliance constitutes a violation of the federal Clean Air Act or the Virginia Air Pollution Control Law or both and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or, for denial of a permit renewal application.
(9 VAC 5-80-490 G.2)

85. **General Conditions - Need to Halt or Reduce Activity not a Defense** - It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
(9 VAC 5-80-490 G.3)

86. **General Conditions - Permit Modification** - A physical change in, or change in the method of operation of, this stationary source may be subject to permitting under State Regulations 9 VAC 5-80-50, 9 VAC 5-80-1100, 9 VAC 5-80-1605, or 9 VAC 5-80-2000 and may require a permit modification and/or revisions except as may be authorized in any approved alternative operating scenarios.
(9 VAC 5-80-490 G and L, 9 VAC 5-80-550, and 9 VAC 5-80-660)

87. **General Conditions - Property Rights** - The permit does not convey any property rights of any sort, or any exclusive privilege.
(9 VAC 5-80-490 G.5)

88. **General Conditions - Duty to Submit Information** - The permittee shall furnish to the Board, within a reasonable time, any information that the Board may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Board copies of records required to be kept by the permit and, for information claimed to be confidential, the permittee shall furnish such records to the Board along with a claim of confidentiality.
(9 VAC 5-80-490 G.6)

89. **General Conditions - Duty to Submit Information** - Any document (including reports) required in a permit condition to be submitted to the Board shall contain a certification by a responsible official that meets the requirements of 9 VAC 5-80-430 G.9.
(9 VAC 5-80-490 K.1)

90. **General Conditions - Duty to Pay Permit Fees** - The owner of any source for which a permit under 9 VAC 5-80-360 through 9 VAC 5-80-700 was issued shall pay permit fees consistent with the requirements of 9 VAC 5-80-310 through 9 VAC 5-80-350 in addition to an annual permit maintenance fee consistent with the requirements of 9 VAC 5-80-2310 through 9 VAC 5-80-2350. The actual emissions covered by the permit program fees for the preceding year shall be calculated by the owner and submitted to the Department by April 15 of each year. The calculations and final amount of emissions are subject to verification and final determination by the Department. The amount of the annual permit maintenance fee shall be the largest applicable base permit maintenance fee amount from Table 8-11A in 9 VAC 5-80-2340, adjusted annually by the change in the Consumer Price Index.
(9 VAC 5-80-490 H, 9 VAC 5-80-340 C and 9 VAC 5-80-2340 B)

91. **General Conditions - Fugitive Dust Emission Standards** - During the operation of a stationary source or any other building, structure, facility, or installation, no owner or other person shall cause or permit any materials or property to be handled, transported, stored, used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. Such reasonable precautions may include, but are not limited to, the following:

    a. Use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads, or the clearing of land;

    b. Application of asphalt, water, or suitable chemicals on dirt roads, materials stockpiles, and other surfaces which may create airborne dust; the paving of roadways and the maintaining of them in a clean condition;

    c. Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty material. Adequate containment methods shall be employed during sandblasting or similar operations;

    d. Open equipment for conveying or transporting material likely to create objectionable air pollution when airborne shall be covered or treated in an equally effective manner at all times when in motion; and,

    e. The prompt removal of spilled or tracked dirt or other materials from paved streets and of dried sediments resulting from soil erosion.

    (9 VAC 5-40-20 E, 9 VAC 5-50-50, and 9 VAC 5-50-90)

92. **General Conditions - Startup, Shutdown, and Malfunction** - At all times, including periods of startup, shutdown, and soot blowing, and malfunction, owners shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with air pollution control practices for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Board, which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. (9 VAC 5-50-20 E)

93. **General Conditions - Alternative Operating Scenarios** - Contemporaneously with making a change between reasonably anticipated operating scenarios identified in this permit, the permittee shall record in a log at the permitted facility a record of the scenario under which it is operating. The permit shield described in 9 VAC 5-80-500 shall extend to all terms and conditions under each such operating scenario. The terms and conditions of each such alternative scenario shall meet all applicable requirements including the requirements of 9 VAC 5 Chapter 80, Article 3. (9 VAC 5-80-490 J)

94. **General Conditions - Inspection and Entry Requirements** - The permittee shall allow DEQ, upon presentation of credentials and other documents as may be required by law, to perform the following:

    a. Enter upon the premises where the source is located or emissions-related activity is conducted, or where records must be kept under the terms and conditions of the permit.

b. Have access to and copy, at reasonable times, any records that must be kept under the terms and conditions of the permit.

c. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit.

d. Sample or monitor at reasonable times' substances or parameters for the purpose of assuring compliance with the permit or applicable requirements.

(9 VAC 5-80-490 K.2)

95. **General Conditions - Reopening For Cause** - The permit shall be reopened by the Board if additional federal requirements become applicable to a major source with a remaining permit term of three years or more. Such reopening shall be completed no later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to 9 VAC 5-80-430 F. The conditions for reopening a permit are as follows:

a. The permit shall be reopened if the Board or the administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.

b. The permit shall be reopened if the administrator or the Board determines that the permit must be revised or revoked to assure compliance with the applicable requirements.

c. The permit shall not be reopened by the Board if additional applicable state requirements become applicable to a major source prior to the expiration date established under 9 VAC 5-80-490 D.

(9 VAC 5-80-490 L)

96. **General Conditions - Permit Availability** - Within five days after receipt of the issued permit, the permittee shall maintain the permit on the premises for which the permit has been issued and shall make the permit immediately available to DEQ upon request.
(9 VAC 5-80-510 G)

97. **General Conditions - Transfer of Permits** - No person shall transfer a permit from one location to another or from one piece of equipment to another.
(9 VAC 5-80-520)

98. **General Conditions - Transfer of Permits** - In the case of a transfer of ownership of a stationary source, the new owner shall comply with any current permit issued to the previous owner. The new owner shall notify the Board of the change in ownership within 30 days of the transfer and shall comply with the requirements of 9 VAC 5-80-560.
(9 VAC 5-80-520)

99. **General Conditions - Transfer of Permits** - In the case of a name change of a stationary source, the owner shall comply with any current permit issued under the previous source name. The owner shall notify the Board of the change in source name within 30 days of the name change and shall comply with the requirements of 9 VAC 5-80-560.
(9 VAC 5-80-520)

100. **General Conditions - Malfunction as an Affirmative Defense** - A malfunction constitutes an affirmative defense to an action brought for noncompliance with technology-based emission limitations if the requirements stated in Condition 101 are met.
(9 VAC 5-80-650)

101. **General Conditions - Malfunction as an Affirmative Defense** - The affirmative defense of malfunction shall be demonstrated by the permittee through properly signed, contemporaneous operating logs, or other relevant evidence that show the following:

    a. A malfunction occurred and the permittee can identify the cause or causes of the malfunction.

    b. The permitted facility was at the time being properly operated.

    c. During the period of the malfunction the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit.

    d. The permittee notified the Board of the malfunction within two working days following the time when the emission limitations were exceeded due to the malfunction. This notification shall include a description of the malfunction, any steps taken to mitigate emissions, and corrective actions taken. The notification may be delivered either orally or in writing. The notification may be delivered by electronic mail, facsimile transmission, telephone, or any other method that allows the permittee to comply with the deadline. This notification fulfills the requirements of 9 VAC 5-80-490 F.2.b to report promptly deviations from permit requirements. This notification does not release the permittee from the malfunction reporting requirement under 9 VAC 5-20-180 C.

    (9 VAC 5-80-650)

102. **General Conditions - Malfunction as an Affirmative Defense** - In any enforcement proceeding, the permittee seeking to establish the occurrence of a malfunction shall have the burden of proof. The provisions of this section are in addition to any malfunction, emergency or upset provision contained in any requirement applicable to the source.
(9 VAC 5-80-650)

103. **General Conditions - Malfunction as an Affirmative Defense** - The provisions of this section are in addition to any malfunction, emergency or upset provision contained in any applicable requirement.
(9 VAC 5-80-650)

104. **General Conditions - Permit Revocation or Termination for Cause** - A permit may be revoked or terminated prior to its expiration date if the owner knowingly makes material misstatements in the permit application or any amendments thereto or if the permittee violates, fails, neglects or refuses to comply with the terms or conditions of the permit, any applicable requirements, or the applicable provisions of 9 VAC 5 Chapter 80 Article 1. The Board may suspend, under such

conditions and for such period of time as the Board may prescribe any permit for any grounds for revocation or termination or for any other violations of these regulations.
(9 VAC 5-80-490 G & L, 9 VAC 5-80-640 and 9 VAC 5-80-660)

105. **General Conditions - Duty to Supplement or Correct Application** - Any applicant who fails to submit any relevant facts or who has submitted incorrect information in a permit application shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrections. An applicant shall also provide additional information as necessary to address any requirements that become applicable to the source after the date a complete application was filed but prior to release of a draft permit.
(9 VAC 5-80-430 E)

106. **General Conditions - Stratospheric Ozone Protection** - If the permittee handles or emits one or more Class I or II substances subject to a standard promulgated under or established by Title VI (Stratospheric Ozone Protection) of the federal Clean Air Act, the permittee shall comply with all applicable sections of 40 CFR Part 82, Subparts A to F.
(40 CFR Part 82, Subparts A-F)

107. **General Conditions - Asbestos Requirements** - The permittee shall comply with the requirements of National Emissions Standards for Hazardous Air Pollutants (40 CFR 61) Subpart M, National Emission Standards for Asbestos as it applies to the following: Standards for Demolition and Renovation (40 CFR 61.145), Standards for Insulating Materials (40 CFR 61.148), and Standards for Waste Disposal (40 CFR 61.150).
(9 VAC 5-60-70 and 9 VAC 5-80-490 A.)

108. **General Conditions - Accidental Release Prevention** - If the permittee has more, or will have more than a threshold quantity of a regulated substance in a process, as determined by 40 CFR 68.115, the permittee shall comply with the requirements of 40 CFR Part 68.
(40 CFR Part 68)

109. **General Conditions - Changes to Permits for Emissions Trading** - No permit revision shall be required under any federally approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are provided for in this permit.
(9 VAC 5-80-490 I)

110. **General Conditions - Emissions Trading** - Where the trading of emissions increases and decreases within the permitted facility is to occur within the context of this permit and to the extent that the regulations provide for trading such increases and decreases without a case-by-case approval of each emissions trade:

    a. All terms and conditions required under 9 VAC 5-80-490, except subsection N, shall be included to determine compliance.

    b. The permit shield described in 9 VAC 5-80-500 shall extend to all terms and conditions that allow such increases and decreases in emissions.

    c. The owner shall meet all applicable requirements including the requirements of 9 VAC 5-80-360 through 9 VAC 5-80-700.

    (9 VAC 5-80-490 I)

Title IV (Phase II Acid Rain) Permit Allowances and Requirements

111. **SO_2 Allowance Allocations and NO_x Requirements for affected units**
(9 VAC 5-80-490 A.4)

		2014	2015	2016	2017	2018
CT 1	SO_2 allowances, allocated by U.S. EPA. (tons)	None.[1]	None.[1]	None.[1]	None.[1]	None.[1]
	NO_x limit	Not Applicable				

[1] See Conditions 112 and 113 a. and b.

Additional Requirements, Notes, Comments, and Justifications

112. **Additional Requirements – Doswell Limited Partnership** shall submit a complete permit application that includes all of the information required under 40 CFR §§72.21 and 72.31 [and includes a complete NO_x compliance plan in accordance with 40 CFR § 76.9(C)] at least 6 months, but no earlier than 18 months, prior to the date of expiration of the existing Phase II Acid Rain permit. EPA forms shall be used.
(9 VAC 5-80-430 C.5)

113. **Notes:**

a. SO_2 allowances may be acquired from other sources in addition to those allocated by U.S. EPA. No revision to this permit is necessary in order for the owners and operators of this unit to hold additional allowances recorded in accordances with 40 CFR Part 73. The owners and operators of this unit remain obligated to hold sufficient allowances to account for SO_2 emissions from this unit in accordance with 40 CFR 72.9(c)(1).
(9 VAC 5-80-420 C.1 and H.1 and 9 VAC 5-80-490 O)

b. This unit was not eligible for SO_2 allowance allocation by U.S. EPA under Section 405 of the Clean Air Act and Acid Rain Program, so none were assigned in 40 CFR Part 73, Table 2.
(9 VAC 5-80-420 C.6)

114. **Justifications –**

a. CT 1 is a gas-fired or oil-fired simple cycle combustion turbine and is not subject to NO_x limitations under 40 CFR Part 76.
(9 VAC 5-80-420 D)

b. Doswell Limited Partnership has obtained a PSD permit to construct and operate a combustion turbine at their Hanover County facility. The permit was originally issued on April 7, 2000 last amended on September 30, 2013.

c. This acid rain permit only applies to the new combustion turbine CT1 originally permitted on April 7, 2000 last amended on September 30, 2013. Doswell Limited Partnership also operates four combustion turbines each equipped with a ductburner. The turbines and duct burners fire natural gas a low liquid sulfur petroleum product to make electricity. A PSD permit was originally issued to the facility on May 4, 1990 last amended on August 3, 2005. The facility operates as an independent power producer. Acid rain regulation do not apply to previously constructed turbines and duct burners because the facility had a qualifying power purchase commitment to sell at least 15 percent of its total net output capacity as of November 15, 1990. This exemption is listed in 40 CFR 72.6(b)(6)(i) and (ii).
(9 VAC 5-80-420 D.)

Clean Air Interstate Rule (CAIR) Requirements

115. **CAIR General Conditions Requirements** – The permittee shall comply with all applicable CAIR requirements (9 VAC 5-140-1010 *et seq.,* 9 VAC 5-140-2010 *et seq,* 9 VAC 5-140-3010 *et seq.,* and 40 CFR Part 96) by the compliance date in the respective Part of 9 VAC 5 Chapter 140. The CAIR application in Attachment A to this document contains specific conditions and expires upon expiration of this Title V permit.
(9 VAC 5-80-490 N, 40 CFR Part 96, and 9 VAC 5 Chapter 140)

State-Only Enforceable Requirements

116. **State-Only Enforceable Requirements** - The following terms and conditions are not required under the federal Clean Air Act or under any of its applicable federal requirements, and are not subject to the requirements of 9 VAC 5-80-290 concerning review of proposed permits by EPA and draft permits by affected states.
Odor: None
State Toxics Rule
(9 VAC 5-80-110 N and 9 VAC 5-80-300)

The following Virginia Administrative Codes have specific requirements only enforceable by the State and have been identified as applicable by the applicant:

From the September 30, 2013 NSR Permit Condition Numbers: 35 and 36.

35. **Toxic Pollutant Emission** Limits - Toxics pollutant emissions from the simple cycle combustion turbine (CT1) exhaust shall not exceed the limitations specified below: term emission limits from the operation of the simple cycle combustion turbine (CT1) while fired on **No. 2 distillate fuel oil** shall not exceed the limits specified below (except during start-up, shutdown and malfunction conditions):

Beryllium	0.00064 lbs/hr/stack	0.01536 lbs/day/stack
Formaldehyde	0.13000 lbs/hr/stack	3.12000 lbs/day/stack
Nickel	0.00120 lbs/hr/stack	0.02880 lbs/day/stack

36. **Records** – The permittee shall maintain records of all emission data, fuel throughputs (heat input consumption based on fuel) and operating parameters required to demonstrate compliance with condition 35 of this (September 30, 2013) permit. The content and format of such records shall be arranged with the Piedmont Regional Office (PRO) of the DEQ.

From the August 3, 2005 NSR Permit Condition Number: 22.

22. **Toxic Pollutant Emission Limits** - Toxics pollutant emissions from each combustion turbine/duct burner exhaust shall not exceed the limitations specified below:

Beryllium	0.004 lbs/hr/stack	0.09 lbs/day/stack
Formaldehyde	0.609 lbs/hr/stack	14.60 lbs/day/stack
Nickel	0.255 lbs/hr/stack	6.13 lbs/day/stack